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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,850	08/18/2003	Cynthia H. Nordness	15611.1 (27839-2013)	4040
45736	7590	01/27/2009	EXAMINER	
Christopher M. Goff (27839)			ANDERSON, CATHARINE L	
ARMSTRONG TEASDALE LLP			ART UNIT	PAPER NUMBER
ONE METROPOLITAN SQUARE			3761	
SUITE 2600				
ST. LOUIS, MO 63102				
NOTIFICATION DATE	DELIVERY MODE			
01/27/2009	ELECTRONIC			

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CYNTHIA H. NORDNESS, KENT A. FRANKLIN, and  
KATHERINE C. WHEELER

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Appeal 2008-4683  
Application 10/642,850  
Technology Center 3700

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Decided: January 23, 2009

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Before DONALD E. ADAMS, DEMETRA J. MILLS, and  
LORA M. GREEN, *Administrative Patent Judges*.

GREEN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the  
Examiner's final rejection of claims 1-7, 9-20, 22-30, 32-38, and 40. We  
have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

The claims are directed to an absorbent structure. Claim 1 is  
representative of the claims on appeal, and reads as follows:

1. An absorbent garment comprising:

a composite structure, the composite structure having end edges and side edges, the end edges and the side edges defining a perimeter and a central region within the perimeter of the composite structure;

the composite structure including a liquid-permeable body side liner, an outer cover, an absorbent assembly between the body side liner and the outer cover; and

a continuous mesh liner attached to the composite structure adjacent to the body side liner with no intervening layers between the mesh liner and the body side liner, wherein the mesh liner is permeable to sand, and the mesh liner is coextensive with the composite structure and is attached to the composite structure along the perimeter of the composite structure and unattached to the composite structure in the central region of the composite structure.

The Examiner relies on the following references:

Allen	5,037,416	Aug. 6, 1991
Freeland	4,990,147	Feb. 5, 1991
Mizutani et al.	2002/0028624 A1	Mar. 7, 2002

We reverse.

#### ISSUE

The Examiner finds that Allen anticipates the absorbent garment of independent claims 1, 20, 27, and 34.

Appellants contend that Allen does not teach a mesh liner as required by independent claims 1, 20, 27, and 34.

Thus, the issue on Appeal is: Does Allen teach a mesh liner as required by claim 1, as well as required by the other independent claims?

#### FINDINGS OF FACT

FF1 The invention is drawn “disposable swimpants and swimsuits for incontinent adults and children.” (Spec. 1.)

FF2 According to the Specification, “the swimpants include a material which is permeable to fluid, but substantially impermeable to larger bowel movement material.” (*Id.*)

FF3 The Specification teaches that a mesh liner can be a layer within a garment, such as a disposable swimpant, wherein the mesh layer is positioned closest to the body of the wearer and is on top of the body side liner (*id.* at 4).

FF4 The Specification specifically defines a mesh material as a material that has the ability to allow fluid and particulates of a specific size range to filter through. This can be accomplished by mechanical means (e.g., pin roll aperturing) or the process by which to make the material (hydroentangling, meltblowing, spunbonding). The material has an open network that allows fluid or particulates of a specific size to pass through it.

(*Id.* at 11.)

FF5 The Specification teaches further that

in the embodiment in which a mesh liner is a layer within a disposable swimpant, the garment can contain urine and bowel movements like a typical diaper or training pant. When the garment is worn before or while swimming, larger bowel movement material is kept inside the garment, specifically within the mesh liner, because the mesh liner of the invention is substantially impermeable to larger bowel movement material. In addition, any sand within the swimpant from before or after

swimming will pass through the mesh liner. In this way, sand will not stay in direct contact with the wearer's skin.

(*Id.* at 5.)

FF6 The Examiner rejects claims 1-3, 7-12, 14-20, 22-29, 32-27, and 40 under 35 U.S.C. § 102(b) as being anticipated by Allen (Ans. 3).

FF7 The Examiner finds that Allen discloses an absorbent article, wherein a "continuous mesh liner 12 is attached to the composite structure with no intervening layers between it and the body side liner, as shown in figure 6."

(*Id.*)

FF8 The Examiner finds further that "the mesh liner 12 is coextensive with the composite and attached to the composite around its perimeter." (*Id.* (citing Allen, col. 3, ll. 35-39).) In addition, the Examiner finds, the "mesh liner 12 is unattached to the composite in the central region." (Ans. 3 (citing Allen, col. 12, ll. 63-64).)

FF9 One embodiment of the swim diaper of Allen is shown in Figure 2, reproduced below.

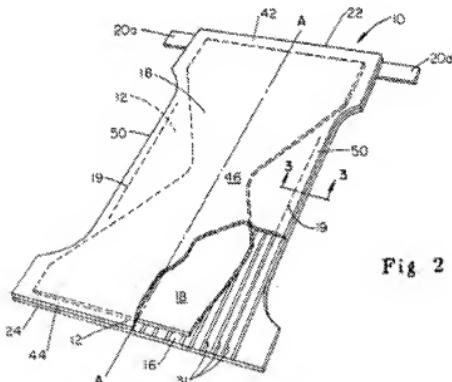


Figure 2 is a top plan view of disposable diaper of Allen, showing the core and backsheet partially in cutaway (col. 2, ll. 26-31).

FF10 The diaper comprises a “liquid pervious topsheet **12**, a liquid impervious backsheet **16**, and an absorbent core **18** disposed intermediate the topsheet **12** and the backsheet **16**. The topsheet **12** and the backsheet **16** are at least partially peripherally joined to ensure the core **18** is held in the desired position.” (*Id.* at ll. 58-63).

FF11 As shown in Figure 2, the topsheet **12** and the backsheet **16** “are generally coextensive.” (Col. 3, ll. 35-39.) Moreover, “[j]oining of the topsheet **12** and the backsheet **16** to and throughout the absorbent core **18** is generally desirable.” (*Id.* at ll. 48-50.)

FF12 Allen also teaches that the topsheet may be made of a laminate **13** having at least two layers (*id.* at col. 6, ll. 13-15).

FF13 Figure 6 of Allen, which the Examiner relies upon, shows a second embodiment of the diaper of Allen. Figures 5 and 6, drawn to that embodiment, are reproduced below.

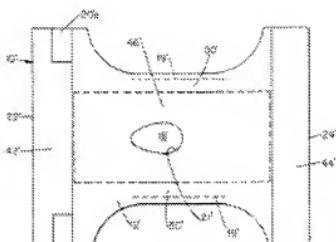


Fig. 5

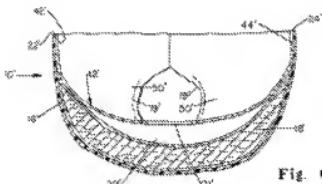


Fig. 6

FF14 Figure 5 is a top view of the second embodiment of a diaper "having a passageway to allow communication of solid waste materials . . . incorporating a topsheet." (Allen, col. 2, ll. 38-41.) Figure 6 shows a vertical view of the diaper of Figure 5 (*id.* at ll. 42-43).

FF15 The Examiner finds that the liner 12' of Figure 6 reads on the mesh liner and a body side liner located adjacent to the absorbent core (not numbered), wherein the mesh liner is attached to the periphery of the article, but unattached to the central portion (Ans. 6).

FF16 The diaper depicted in Figures 5 and 6 of Allen has a passageway 21', in the form of an aperture (Allen, col. 12, ll. 9-32).

FF17 The waste material enters a void space between the topsheet 12' and the absorbent core 18' (*id.* at ll. 43-50).

FF18 The Examiner also rejects claims 4 and 6 under 35 U.S.C. § 103(a) as being obvious over the combination of Allen and Freeland (Ans. 4).

FF19 Freeland is cited for teaching that “polyurethane nonwoven materials, such as polypropylene and polyethylene, and nylon are suitable and equivalent material for use as the liner of an absorbent garment.” (*Id.* at 4-5.)

FF20 The Examiner further rejects claims 5, 30, and 38 under 35 U.S.C. § 103(a) as being obvious over the combination of Allen and Mitzutani (*id.* at 5).

FF21 Mitzutani is cited for teaching “that polypropylene nonwoven materials and SMS webs are suitable and equivalent material for use as the liner of an absorbent garment.” (*Id.*)

FF22 Finally, the Examiner rejects claims 13 and 24 under 35 U.S.C. § 103(a) as being obvious over Allen (*id.* at 5).

FF23 The Examiner notes that Allen discloses all of the aspects of the claimed invention, except for the hole size of the mesh liner (*id.*). The Examiner concludes, however, that it would have been

obvious to one of ordinary skill in the art at the time of invention to make the hole size of the mesh liner in a range of 147-5810 microns, since it has been held that where the general conditions of the claim are disclosed in the prior art, finding the optimum or workable ranges involves only routine skill in the art.

(*Id.* at 5-6).

#### PRINCIPLES OF LAW

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of nonobviousness, if any. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The Supreme Court has recently emphasized that “the [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, \_\_\_, 127 S. Ct. 1727, 1741 (2007).

While the analysis under 35 U.S.C. § 103 as set forth in *KSR* allows flexibility in determining whether a claimed invention would have been obvious, it still requires showing that “there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1741. “We must still be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be combined to produce the claimed invention.” *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 n.3 (Fed. Cir. 2008).

#### ANALYSIS

Appellants argue that Allen does not teach or suggest a separate mesh liner (App. Br. 5). Specifically, as to the first embodiment of Allen, Appellants argue that the laminate 13, forming part of the topsheet, is also part of the composite structure (*id* at 6-7).

In the second embodiment of Allen, Appellants argue that the topsheet includes a hole or aperture **21'** that allows the fecal matter to enter a void space **28'** between the topsheet **12'** and absorbent core **18** (*id.* at 7). Thus, the liner **12'** is not continuous (Reply Br. 2).

We agree.

The Examiner relies on the first embodiment of Allen for its teaching that that the mesh liner **12** is coextensive with the composite and attached to the composite around its perimeter (FF8 (citing col. 3 of Allen, which is drawn to the first embodiment).). However, in that embodiment, there is no separate mesh liner “attached to the composite structure adjacent to the body side liner with no intervening layers between the mesh liner and the body side liner, . . . [wherein] the mesh liner is coextensive with the composite structure and is attached to the composite structure along the perimeter of the composite structure and unattached to the composite structure in the central region of the composite structure” as required by claim 1. While Allen does teach that the topsheet may comprise a laminate, in that embodiment if one layer of the laminate were to be read as being the mesh layer and the other layer of the laminate were to be read as the body side liner, it would still not meet the limitation wherein the mesh liner is attached to the composite structure along the perimeter of the composite structure and unattached to the composite structure in the central region of the composite structure. Thus, the first embodiment of Allen does not anticipate the absorbent garment of claim 1.

As to the second embodiment of Allen, shown in Figure 6 of that reference, while we agree with the findings of the Examiner regarding Figure 6 (FF15), the Examiner has not taken into consideration the aperture

**21'.** Because of the aperture **21'**, the mesh liner is no longer coextensive with the composite structure. Thus, the second embodiment of Allen also does not anticipate the absorbent garment of claim 1. Moreover, the Examiner has not pointed to any place in Allen that teaches removing the aperture **21'** from the second diaper embodiment.

Therefore, Allen does not anticipate the absorbent garment of claim 1. As the remaining independent claims (claims 20, 27, and 34) also require the limitations discussed above, Allen also does not anticipate those claims. As the remaining rejections do not remedy the deficiencies discussed above, those rejections also cannot stand.

#### CONCLUSIONS OF LAW

We thus find that Allen does not teach a mesh liner as required by claim 1, as well as required by the other independent claims.

We thus reverse the rejection of claims 1-3, 7-12, 14-20, 22-29, 32-27, and 40 under 35 U.S.C. § 102(b) as being anticipated by Allen. As the remaining rejections do not remedy the deficiencies of that rejection, we also reverse the rejection of claims 4 and 6 under 35 U.S.C. § 103(a) as being obvious over the combination of Allen and Freeland; the rejection of claims 5, 30, and 38 under 35 U.S.C. § 103(a) as being obvious over the combination of Allen and Mitzutani; as well as the rejection of claims 13 and 24 under 35 U.S.C. § 103(a) as being obvious over Allen.

REVERSED

Appeal 2008-4683  
Application 10/642,850

LP

CHRISTOPHER M. GOFF  
ARMSTRONG TEASDALE LLP  
ONE METROPOLITAN SQUARE  
SUITE 2600  
ST. LOUIS, MO 63102